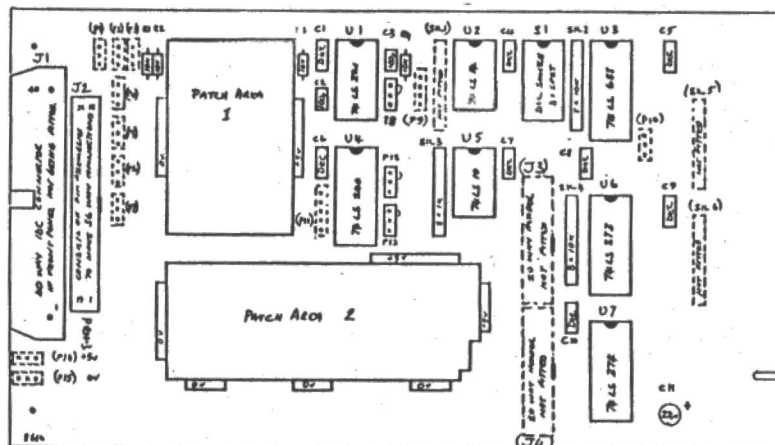


Interak 1

PRINTER
INTERFACE

Parallel Printer Interface Card

DRAFT
ONLY



PRN-3 Parallel Printer Interface Card

FEATURES

- * International Size Card (4.5" x 8").
- * Interfaces to 'Centronics' style parallel printers.
- * Occupies just two ports within 256 I/O space on an even boundary
- * Generous patch areas for user experiments etc.
- * Automatic 'strobe' generation (ie single output instruction latches data and produces strobe).
- * Uses 'busy' for hand-shaking no need for 'acknowledgement'.
- * Busy input polarity jumper selectable for use with odd printers and for use with other devices selectable for use with printers which have inverted or non-inverted busy signals.
- * Output strobe polarity selectable for use with odd printers and other devices.
- * Strobe delay and width preset on board - requires no setting up, but non-standard requirements can be accommodated by simple resistor and capacitor component changes.
- * All 36 way signal brought to circuit board.
- * Capable of working with 20 way ribbon cable for low cost OEM systems etc.
- * Ribbon cable includes earth lines between signals.
- * Uses 8-bit latches.
- * Combined latch/driver for output data.
- * Transparent input latch included for special none printer applications.
- * 8 bit I/O, can also be used as a simple parallel interface 8 bits in 8 bits out.
- * High-speed CMOS logic pin equivalents (allows later upgrade)
- * Buffered where necessary to reduce bus loading to 1 "LS" load per line.
- * Plated-through holes, Epoxy-glass PCB.

- * Green Solder Resist on both sides.
- * Gold-plated edge connector on both A and B sides.
- * 5V only operation.
- * ISBUS-A, INTERAK 1 bus compatible.
- * KBUS-5, KBUS-12 compatible.
- * No manufacturer's name appears on the card, thus ideal for OEM use.

DESCRIPTION

The PRN-3 provides a simple means of interfacing a 'Centronics' parallel printer to the Interak system.

The PRN-3 appears to the computer as a pair of ports, one (read only) for printer status the other (write only) for the data being sent to the printer. The action of writing to the data port automatically generates the necessary set up time and strobe which qualifies the data being held in the data latch. The port address the card occupies, which can be any two ports starting on an even boundary, is selected using the DIL switch provided in the kit.

Versatile

Although the board was designed as a printer interface we took care to ensure that it could also be easily adapted to other uses eg an 8 bit input/output card. We have used a transparent latch for the status port, even though an ordinary buffer would be all that was required for a simple printer interface, so that a user could adapt the board more easily to latch incoming signals. Also we have incorporated connection areas at the latches so that some signals may be brought in and connected using IDC ribbon cable and connectors.

Patch Areas

Generous patch areas with power pick up points (will accomodate up to six 14 pin DIL sockets or one 40 pin and two 28 pin) have been provided to allow special circuits to be built on this board, eg to condition incoming signals via opto-isolators and to take advantage of the latches.

Easy Construction

All of the components used are readily available, and the 7 integrated circuits used are all laid out the same way round, which makes the card very straight forward to construct and test. Wherever possible signal tracks which have to pass between the legs of ICs are taken on the A-side (solder side) so that they can be inspected in case of trouble. (Less considerate designers take them on the B-side (component side) where any shorts will be hidden under the IC sockets!) Plated-through hole construction is utilised, and a solder resist mask has been provided.

Although all of the signals used by this board are taken via the A-side of the edge connector (which is gold-plated) and a gold-plated edge connector is also provided on the B-side.

CONTENTS OF KIT

The kit of components, which is sold separately from the p.c.b. itself, includes 4 resistors, 3 SIL resistor packs, 11 capacitors, 7 integrated circuits, 1 8xSPST DIL switch, 8 integrated circuit sockets (including socket for the DIL switch), and some pin assemblies, and jumper links. A 1" metal card front and connectors are recommended but are not included in the kit to keep the basic kit cost down for those working to limited budgets.

ORDERING INFORMATION, PRICES

Bare Board,	order as "BPRN3"	17.75 + VAT
Manual,	order as "MPRN3"	2.50 (0% VAT)
Kit of Parts,	order as "PPRN3"	16.39 + VAT
Detailed Component Price List,	order as "PRN3/P"	no charge
Centronics Printer Lead, (approx 2 metres)	order as "LDCEN36"	12.00 + VAT

Note that even though the board is now well established, we have not prepared a full manual. The board is supplied with enough information to assemble and use it (includes circuit diagram), but users who order the manual will be supplied with all the information available at the time, with updates as they are produced, until they have a full manual.